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## USE CASE 17 – ASSET MANAGER VERIFIES EQUIPMENT LOCATION

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### Use Case Title

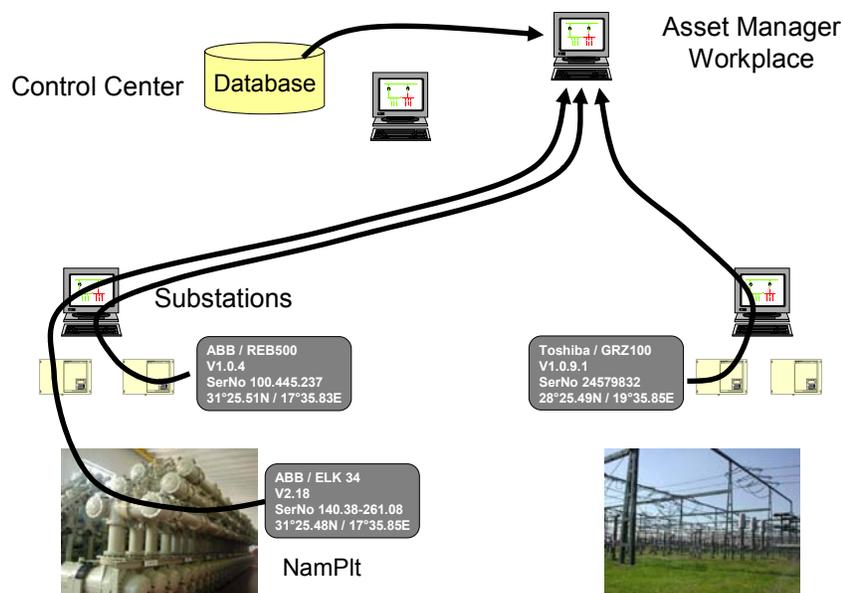
Asset manager verifies equipment location

### Use Case Summary

The asset manager verifies by browsing the name plates of the devices the location of the equipment.

### Use Case Detailed Narrative

The asset manager has a database with a list of all equipment (both process equipment as well as automation equipment) including the location and the revision status. To verify that the database contains the latest values, the asset manager can check nameplate information available as real time information from the substation automation system.



The use case includes the following steps:

1. The asset manager selects an equipment he wants to verify
2. The asset manager identifies in the database the substation, where that equipment is located
3. The asset manager retrieves the access information for that substation and the equipment (IP address, etc)
4. With a browser or a similar tool, the asset manager connects to the substation and to the equipment and compares the name plate information with the entry in the database

### **1. Selecting the equipment**

The database contains a list of all equipment operated by the utility. That list typically includes equipment type, serial number, manufacturer, etc and the location of the equipment. The asset manager picks one of the equipment he wants to verify.

### **2. Identify the substation**

In the database, typically the name of the substation where that equipment is located will be listed as well as maybe the bay or feeder where it is installed.

### **3. Retrieve access information**

The asset manager then has to retrieve the information, how to access that equipment. That information may be an IP address of the gateway and an IP address of the IED.

If the equipment the asset manager wants to verify is a process equipment (e.g. a circuit breaker), the asset manager needs as well the information, of the IED that is associated with that equipment (e.g. the name and IP address of the bay controller) and the name of the logical node that relates to that process equipment.

### **4. Browse the nameplate**

With an IEC 61850 browser, the asset manager can connect to the IED, retrieve the name plate information and compare it with the information stored at system level.

## **Harmonization tasks**

The following harmonization tasks have been identified:

- At system level, information about the 61850 data model (IED, logical devices and logical nodes) needs to be available
- In the CIM, an association between the process equipment and the instance of the logical node that interfaces the equipment needs to be available.

- The nameplate information according to IEC 61850 and the related information stored in CIM shall be harmonized. As a minimum, the CIM shall be able to store for an equipment any kind of information.

## Business Rules and Assumptions

## ACTORS

<i>Actor Name</i>	<i>Actor Type (person, device, system etc.)</i>	<i>Actor Description</i>
Asset Manager	Person	Manages utility physical assets
Equipment Database	System	Stores data about physical assets. (e.g. equipment type, serial number, manufacturer, firmware version, substation location, bay location, etc.). For this Use Case, the Equipment Database is a CIM representation of the system.
Field Device Communication Interface	System	Generic architectural component that communicates with substation and field devices using IEC 61850. This system can translate IEC 61850 services to GID services.
Browser Tool	System	Generic software tool for communicating with IEC 61950 devices and viewing their internal data.
Field Device	Device	IED that monitors Primary Equipment

## STEP BY STEP ANALYSIS OF EACH SCENARIO

### Scenario Description

<i>Triggering Event</i>	<i>Primary Actor</i>	<i>Pre-Condition</i>	<i>Post-Condition</i>
<i>(Identify the name of the event that start the scenario)</i>	<i>(Identify the actor whose point-of-view is primarily used to describe the steps)</i>	<i>(Identify any pre-conditions or actor states necessary for the scenario to start)</i>	<i>(Identify the post-conditions or significant results required to consider the scenario complete)</i>
Asset Manager must verify equipment information.		Model of system exists and contains equipment information	

### Steps for this scenario

<b>Step #</b>	<b>Actor</b>	<b>Description of the Step</b>	<b>Additional Notes</b>
#	<i>What actor, either primary or secondary is responsible for the activity in this step?</i>	<i>Describe the actions that take place in this step including the information to be exchanged. The step should be described in active, present tense.</i>	<i>Elaborate on any additional description or value of the step to help support the descriptions. Short notes on architecture challenges, etc. may also be noted in this column..</i>
1	Asset Manager	Asset Manager selects or searches for Field Device in CIM Model Server and retrieves the information which IED / Logical device / logical node interfaces that equipment	
2	CIM Model Server	CIM Model Server provides Field Device information to Browser Tool including communication addressing	Also substation, bay, feeder, etc.
2	Asset Manager	Asset Manager sends verification request to Field Device using Browser Tool	
4	Field Device	Field Device responds with name plate information	
6	Asset Manager	Asset Manager compares data received in Browser Tool with entry in CIM Model Server	
7	Asset Manager	Asset Manager updates CIM Model Server information as needed	

## REQUIREMENTS

### Functional Requirements

<b>Functional Requirements</b>	<b>Associated Scenario # (if applicable)</b>	<b>Associated Step # (if applicable)</b>
CIM Equipment database contains information that allows identifying for equipment the IED / Logical device / logical node that interfaces the equipment.		
CIM Equipment database need to include information about IEDs and their communication parameters		
Nameplate information stored in the IED must reflect equipment information stored in the CIM Equipment database.		

### Non-functional Requirements

<i>Non-Functional Requirements</i>	<i>Associated Scenario # (if applicable)</i>	<i>Associated Step # (if applicable)</i>